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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,617	06/23/2003	Louis A. Lippincott	42P17012	8912

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EXAMINER

MONESTIME, MACKLY

ART UNIT	PAPER NUMBER
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2676

DATE MAILED: 02/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/601,617

**Applicant(s)**

LIPPINCOTT ET AL.

**Examiner**

Mackly Monestime

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 11-29 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-9 is/are rejected.
- 7) ☒ Claim(s) 5 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/09/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

1. Claims 1-29 are presented for examination.

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

### **Arrangement of the Specification**

2. As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.

(b) CROSS-REFERENCE TO RELATED APPLICATIONS.

(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR  
DEVELOPMENT.

(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A  
COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer  
program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)),  
and tables having more than 50 pages of text are permitted to be  
submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a).

"Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37  
CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A

"Sequence Listing" is required on paper if the application discloses a  
nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if  
the required "Sequence Listing" is not submitted as an electronic  
document on compact disc).

3. The present invention does not contain the **"Summary of the Invention"**.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly  
claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. As per claims 1 and 6, recite the limitations of " **to at least one bit** ", it is not quite clear to the examiner whether or not the bit used for the enabling step is also used for the selected hardware. Therefore, these claims are ambiguous and vague.

7. As per claims 2-5 and 7-10, they are also rejected for incorporating the deficiencies of their base claims.

### ***Claim Objections***

8. Claim 5 and 10 are objected to because of the following informalities: **as per claim 5**, line 4, delete "**hard**" insert **--hardware--**; line 6, delete "**hard**" insert **--hardware--**; **as per claim 10**, line 5, delete "**hard**" insert **--hardware--**; line 7, delete "**hard**" insert **--hardware--**. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones Jr. et al (US Patent No. 6,624,816) in view Mills (US Patent No. 6,311,204).

11. As per claims 1-3 and 6-8, Jones Jr. substantially disclosed the invention as claimed, including a method comprising: enabling a selected hardware accelerator from a plurality of hardware accelerators according to at least one bit of a register set by a processing element; and granting the processing element ownership over the selected hardware accelerator (Fig. 2, Items No. 32, 34, 36 and 38, col. 1, lines 66-67; col. 2, lines 1-10).

Jones Jr. et al did not explicitly disclose providing a register file accessible by a plurality of processing elements of a media signal processor. However, Jones Jr. et al did show the use of a memory storing the parameter to determine the selected graphics functional unit (Fig. 3, Item No. 56). Moreover, Mills disclosed a processing system with register based process sharing in which a graphics processor or other device such as a CPU associated with the processor includes a register with an acquire bit portion and a process identifier portion. When a given process requests access to a graphics engine or other shared processing hardware, a determination is made as to whether the acquire bit of the register is set (col. 4, lines 30-37); Mills further disclosed that the register may be contain within the graphics processor, or the ASIC processor or elsewhere in the processing system (col. 27, lines 2-4-26). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have included the register disclosed by Mills into the system Jones Jr. et al because doing so would provide an improved processing system suitable for use in set top box applications and which can be configured to utilize shared processing hardware to

thereby provide video, audio, graphics, input/output communication and other functions with improved efficiency and reduced cost and complexity.

As per claims 4 and 9, Jones Jr. et al disclosed providing a selection unit coupled to the plurality of hardware elements' (Fig. 2, Items No. 32,34, 36 and 38) designating at least one register within the register file to receive control commands from the plurality of processing elements', directing the selection unit to provide a processing element with access to a selected hardware element; and directing the selecting hardware accelerator to perform a media processing function according to a received control command. However, Jones Jr. et al did show the use of a memory storing the parameter to determine the selected graphics functional unit (Fig. 3, Item No. 56). Moreover, Mills disclosed a processing system with register based process sharing in which a graphics processor or other device such as a CPU associated with the processor includes a register with an acquire bit portion and a process identifier portion. When a given process requests access to a graphics engine or other shared processing hardware, a determination is made as to whether the acquire bit of the register is set (col. 4, lines 30-37); Mills further disclosed that the register may be contain within the graphics processor, or the ASIC processor or elsewhere in the processing system (col. 27, lines 2-4-26). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have included the register disclosed by Mills into the system Jones Jr. et al because doing so would provide an improved processing system suitable for use in set top box applications and which can be configured to utilize shared processing hardware to thereby provide video, audio,

graphics, input/output communication and other functions with improved efficiency and reduced cost and complexity.

***Allowable Subject Matter***

12. Claims 11-29 are allowable over the prior art of record.
13. Claims 5 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
14. The prior art of record fail to teach or suggest individually or in combination a multiprocessing system, wherein the system comprising the uniquely distinct structure: "a register file coupled to the selection unit and the plurality of processing elements, the register file including a plurality of general purpose registers accessible by the plurality of hardware accelerators, the selection unit and the plurality of processing elements, at least one of the general purpose registers including at least one bit to allow a processing element to direct the selection unit to activate a selected hardware accelerator (as per claims 11 and 21). These distinct structures of the present claims invention have not found to be anticipated, suggested or made obvious by the prior art of record, either singularly or in combination.
15. The prior art of record fail to teach or suggest individually or in combination a method and a system, wherein the method further comprising the uniquely distinct steps of: "identifying a processing element having written the control command; determining, according to the control command, an input data stream for the selected hardware



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accelerator; determining, according to the control command, an output data stream for the selected hardware accelerator; directing the selecting hardware accelerator to perform a media processing function according to a received control command; updating a control bit within a register of the register file to indicate whether data is available for one or more data dependent processing elements, and requiring the one or more data dependent processing elements to wait to execute instructions until the data it needs to execute the instructions is available in one or more registers” (as per claims 5 and 10).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mackly Monestime whose telephone number is (703) 305-3855. The examiner can normally be reached on Monday to Thursday from 7:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bella Matthew, can be reached on (703) 308-6829.

**Any response to this action should be mailed to:**

Commissioner of Patent and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

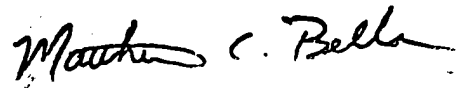
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Mackly/Monestime

Patent Examiner

January 27, 2005



MATTHEW C. BELLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600